

$$11. \left[\begin{array}{cc|c} 1 & -2 & 3 \\ 0 & 1 & -4 \end{array} \right]$$

$$y = -4$$

$$x - 2y = 3$$

$$x - 2(-4) = 3$$

$$x = 3 - 8$$

$$x = -5$$

Solución
Única

$$12. \left[\begin{array}{cc|c} 1 & -3 & 5 \\ 2 & -6 & -10 \end{array} \right]$$

$$2F_1 - F_2 \rightarrow F_2$$

$$2(-3) - (-6) = -6 + 6 = 0$$

$$2(5) - (-10) = 10 + 10 = 20$$

$$\left[\begin{array}{cc|c} 1 & -3 & 5 \\ 0 & 0 & 20 \end{array} \right]$$

$$0 \neq 20 \rightarrow \text{Absurdo}$$

∴ No hay solución

$$13. \left[\begin{array}{ccc|c} 1 & -2 & 4 & -2 \\ 0 & 3 & 1 & 4 \\ 0 & 0 & 1 & -3 \end{array} \right]$$

$$z = -3$$

$$3y + z = 4$$

$$3y = 4 - z$$

$$y = \frac{4 - z}{3}$$

$$y = \frac{4 - (-3)}{3}$$

$$y = \frac{7}{3}$$

Solución
Única

$$14. \left[\begin{array}{ccc|c} 2 & 1 & 5 & 4 \\ 0 & 3 & -2 & 10 \\ 0 & 3 & -2 & 10 \end{array} \right]$$

$$F_2 - F_3 \rightarrow F_3$$

$$\left[\begin{array}{ccc|c} 2 & 1 & 5 & 4 \\ 0 & 3 & -2 & 10 \\ 0 & 0 & 0 & 0 \end{array} \right]$$

$$0+0+0+0=0 \\ 0=0$$

Infinitas soluciones

$$15. \left[\begin{array}{ccc|c} 3 & 2 & -1 & 0 \\ 0 & 1 & 0 & -4 \\ 0 & 1 & 0 & 5 \end{array} \right]$$

$$y = 5$$

$$y = -4$$

$$3x + 2y - z = 0$$

~~$$3x + 2y - z = 0$$~~

No hay solución

$$5 \neq -4$$

Aburdo